Dr. Metz and I carried on a ten years' exploration for the Peabody Museum. The finding of this iron at first seemed to prove that the builders of the mound must have been in contact with Europeans, and yet I knew that every indication of great antiquity was present. Tree growth, formation of soil over the mounds, and the formation of limonite by infiltration, were among these evidences. Still here was iron in considerable quantities, and it became an important question as to its origin. A piece was cleaned for analysis and nickel was shown to be present. Then a mass weighing 37 ounces was cut, and the section showed crystals of olivine as well as the nickel. Soon we found we had ornaments and implements made of the same material. These were all made by hammering the metal in the same way as similar ornaments and implements were made of copper. Thus we proved that this ancient people had found masses of meteoric or native iron, and had used it the same as they did native copper. Since then I have identified ornaments and fragments from certainly three distinct meteorites in our explorations of Ohio mounds in widely separated parts of the State. Among the implements are small axes, chisels and awls or piercers. Some of the latter so closely resemble this piece found by Mr. Moore, particularly in its flaky oxidation, as to strongly suggest that the object is purely of native make from a piece of meteoric iron. I may mention here that native copper, native silver, native gold and native or meteoric iron were found together on one altar in the Turner group in Ohio, and also implements and ornaments made from these metals. In this connection I will again call the attention of archæologists to the important contribution on the sources of native copper given in the second of this series of memoirs by Mr. Moore. In this he has shown that the copper objects from the mounds were made of *native* copper. He has thus confirmed the views of those archæologists who have denied the European origin of the copper.

For many other interesting points relating to the art and culture of the people who buried their dead in these Florida mounds, I must refer the reader to these instructive memoirs. I am pleased to state that Mr. Moore is at the present time continuing his researches in Florida, and we shall undoubtedly soon welcome another paper from him giving the results of this winter's work.

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The Dispersal of Shells. An inquiry into the means of dispersal possessed by fresh-water and land Mollusca. By HARRY WALLIS KEW, F. Z. S., with a preface by ALFRED RUSSEL WALLACE, LL.D., F. R. S., etc. With illustrations. London, Kegan Paul, Trench, Trübner & Co., Ltd. 1893.

Although this little book has been published for some time, the subject is one of perennial interest, as naturalists will continue to gather facts bearing upon it. Though at first sight a rather limited field of inquiry, the author treats of it in a fairly comprehensive way, the chapters discussing the anomalies in local distribution, means of dispersal of fresh-water and of land shells, transplantation of bivalves and of univalves, the tenacity of life of land shells, the dispersal of slugs, the dispersal of fresh-water and land mollusca by man, the ninth and last chapter dealing with the fresh-water and land mollusca introduced into the British Isles by human agency.

The book will be of value to American conchologists and field naturalists, as it is by no means of local interest.

Of a curious nature are the facts collected by the author relating to the transportation of fresh water bivalves by insects, batrachians and birds, with the figures in illustration.

We see nothing special to criticise, nor are we aware of any omissions, except two which it would have been well for the author to have mentioned. The first is the introduction, by probably human agency, of *Helix hortensis* at different points on our northern coast, although it is not clearly proven that the species is not indigenous, yet this does not seem to us probable. Binney concludes that it has been undoubtedly imported to this continent.

In Gould's illustrated report on the invertebrata of Massachusetts, edited by Binney, this species is said to be "An European species introduced by commerce (?) to the northeastern portion of North America. It is found on

islands along the coast from Newfoundland to Cape Cod, and on the mainland plentifully, in Gaspé, C. E.; also along the St. Lawrence." It also inhabits Greenland, but Vermont and Connecticut are mentioned with doubt. It is said to be common on the lower parts of Cape Cod and Cape Ann, and is very abundant on Salt Island, near Gloucester.

It thus having been adventive on our northeastern coast for at least somewhat over sixty or more, probably seventy-five, years (since it is mentioned by Mrs. Sheppard in the Transactions of the Literary and Historical Society of Quebec, I., p. 193, 1829), it is interesting to note the fact that a new variety has apparently evolved in this country, so different from any known to exist in the old world that Dr. Binney described it in 1837 as a new species under the name *Helix subglobosa*. "The specimens first discovered by Dr. Binney were all of the plain greenish-yellow variety; and, though he could not fail to perceive their affinity to the *H. hortensis*, he thought he discovered differences enough to entitle them to a specific distinction, and therefore described them under the name of *H. subglobosa*. But numerous specimens have since been brought from the same vicinity, bearing all the various zones of the European specimens."

Perhaps a new locality, or one not generally known, is a small, quite inaccessible islet in Casco Bay called 'the Brown Cow,' between Portland and Harpswell. We found them in abundance over ten or fifteen years ago, and again in the summer of 1895. As stated by Binney, we also found their habits entirely different from those of *H. albolabris* and *alternata*, in crawling up the stems and over the leaves of tall plants, so that they have retained unaltered this habit of their European ancestors. The greenish-yellow variety *subglobosa* greatly outnumber the banded variety. Like other introduced species, they are much more prolific and numerous in individuals than the native species.

The other omission is the farther history of the case of the introduction, briefly referred to by Mr. Kew, 'a few years ago,' of *Helix nemoralis* from Europe into Lexington, Va., which is given by Prof. T. D. A. Cockerell in *Nature* for February 27, 1890, when he remarks: "Under the new conditions it varied more than I have ever known it to do elsewhere, and up to the present date 125 varieties have been discovered there. *Of these, no less than sixty-seven are new, and unknown in Europe, the native country of the species!* The variation is in the direction of division of the bands.

The facts collected in this little volume by Mr. Kew would seem, then, to be a necessary preliminary to a study of the varieties set up in immigrant species, and this will throw much light on the general question of the origin of species, the primary factors in the evolution of such forms being migration, exposure to new climatic conditions, and geographical isolation. These would seem to be sufficiently efficient and apparent causes of variation, without calling in, in such cases, the aid of natural selection.

A. S. Packard.

Laboratory Manual of Inorganic Preparations, by H. T. Vulté, Ph. D., F. C. S., Professor of Chemistry in Barnard College and assistant in Chemistry at the School of Mines, Columbia College, N. Y., and George M. S. Neustadt. New York, G. G. Peck. 1895.

There can be no doubt that a carefully prepared manual of Inorganic Preparation is desirable. This book is not carefully prepared. The authors in their preface state that this book is compiled from the works of Erdmann and Fresenius and from various chemical journals. The articles translated from Erdmann are good, for Erdmann tested the methods before recommending them. Through a careless blunder in the translations of Erdmann's instructions for making iodine pentoxide from iodine and nitric acid, the student is told to use '158 c. c. of water and nitric acid.' Erdmann says 'anhydrous nitric acid.' Every chemist knows that unless the nitric acid is anhydrous, it does not yield iodine pentoxide.

On page 123 the author states that in distilling nitric acid at 121° an acid of the composition $2HNO_3+H_2O$ distills over. Of course, the acid HNO_3+2H_2O is meant. The abstracts of some of the articles from chemical journals are very carelessly written. On page 129 is an abstract entitled 'Pure Phosphoric Acid from Sodium Phosphite.' ('Phosphate,' of course,